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9 October 1962

MEMORANDUM FOR: Chief, Technical Plans and Development Staff
THROUGH : Chief, Technical Development Branch
SUBJECT : Staff Study concerning Data Handling Services

THE PROBLEM

NPIC does not have an adequate in house capability to reduce stellar photography for attitude determination.

THE FACTS

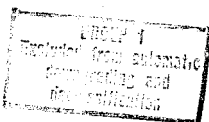
1. On the last and subsequent missions there will be a camera linked together with the terrestrial camera that will photograph the stars. The purpose of photographing the stars is to enable the accurate orientation of the vehicle and terrestrial camera.
2. NPIC does not have the production capability to reduce data from the stellar exposures even though it has the equipment.
3. [] because of their participation in the "A" program, has established production procedures and instrumentation for the reduction of attitude from stellar exposures.

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DISCUSSION

1. In order to determine the pitch, roll and yaw of the vehicle and/or terrestrial exposures the following procedures are necessary:
 - a. The star must be identified.
 - b. The star images must be measured on equipment suitable for measuring stellar images.
 - c. The Boss catalog of stars must be entered into a computer, NPIC does not have this capability at present.
 - d. The measurements must be reduced in the computer. NPIC does not have the necessary program for this reduction.

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2. Items b, c and d above preclude any attempt that TID reduce the stellar data at NPIC at this time.

CONCLUSIONS

1. It is the intent that _____ receive the processed stellar exposures, measure and reduce the data as outlined in appendix B and C of their proposal, and forward the data to NPIC. The cost estimate for the service excluding film processing, which is not required, _____ for each 400 frames.

2. Since the _____ personnel are not cleared for KH material, sufficient security measures must be taken to permit the required personnel to handle the stellar photography.

RECOMMENDATIONS

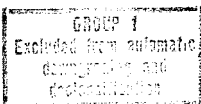
It is recommended that NPIC obtain a contract from _____ to determine the required attitude parameters from stellar exposures until such time that TID is in a position to do the job.

Technical Development Branch

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